

Philosophical Transactions. n.^o

A Scale of 24 Inches or 2 Foo
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21

10. Foot 10. inches

Fig: 1st

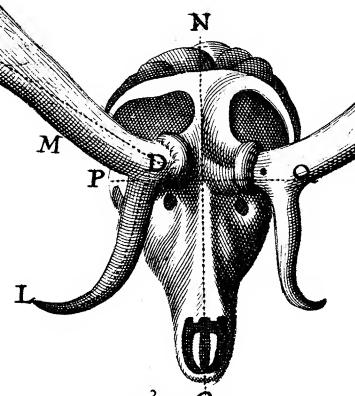


Fig: 4th



Fig: 2nd

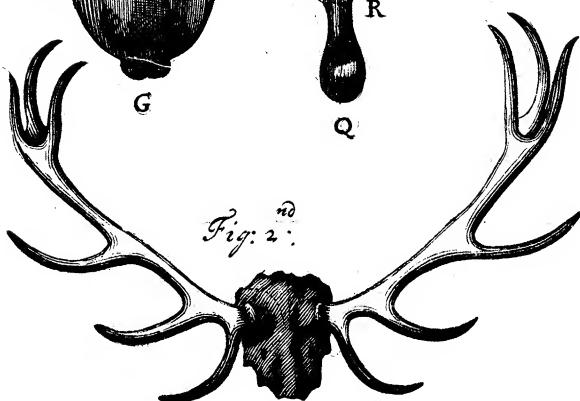


Fig: 4th. The Hornes & Head of a
Fig: 4². A Pair of Common Stags
Fig: 4³. A Pair of Common Buc.

8. n. 227

or 2 Foot

5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

as

O

Stag's Horns.



of a Moose Deer of Ireland.

Stag's Horns.

Buck's Horns.

All by y: Same Scale

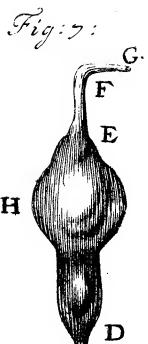
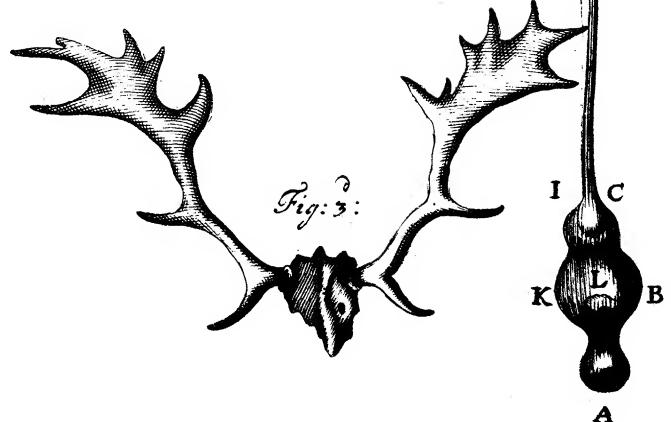


Fig: 2:



whereby it may stand ranged hereafter in its right Place in the History of Animals : since Nature her-self seems by the *Vast Magnitude* and *Stately Horns*, she has given this Creature, to have singled it out as it were, and shewed it such regard, with a design to distinguish it remarkably from the common Herd of all other smaller *Quadrupeds*. Naturalists have rais'd much Dispute, what Beast it truly is, that has had the Name given it by some of them, of *Animal Magnum*; *Dodonæus*, *Menabenus*, and others, would have it the *Elcke*; *Scaliger* would have it the *Bisons* of *Pliny*, whether 'twas one or t'other, or neither, I shan't determine ; nor do I the least suspect that this *our Animal* was meant by it ; however, for its goodly Size and lofty Stature, and to retain something of an Old Appellation, I think it may very well lay claim to it, and not improperly be call'd, *Cervus Platyceros Altissimus*; *five Animal Magnum Cornibus Palmatis, incolis Novæ Anglie & Virginie, ubi frequens, Moose dictum.*

III. Part of a Letter from Mr. Antony van Leuwenhoeck, dated Apr. 5. 1697. giving an Account of several Magnetical Experiments; and of one who pretended to cure or cause Diseases at a Distance, by applying a Sympathetick Powder to the Urine.

I HAVE for many Years made divers Observations about the Loadstone, but made no Deductions from them but for some Months last past, having Two Load-

Loadstones, each above a Pound weight, I hung one of them in a Ballance to see if it would dip or bend to an Iron: but though I approach'd the Iron to the Ballance, I could not find that any such dipping happened.

Some curious Gentlemen having found somewhat of this Dipping of the Loadstone to the Iron, and having informed me by Letter concerning it: I took one of my Loadstones to see what weight of Iron it would take up. Then taking the Key of my Door, which I carried about me, I found that the Load-stone could not sustain it: but filing that part of the Key that touch'd the Stone, thereby taking off the foulness or unctuous Matter left on it by handling, I found that it would be sustained by the Loadstone. This made me wonder the less that the Loadstone did not dip to the Iron in the former Experiment. And I saw that it was from the little Power of the Stone, when but a little separated from the Iron, and not from the Defects of the Scales, as I had then suspected.

I have had one of my Loadstones broken by me several Years, in order to make some Observations, but they have been hitherto ineffectual: As when I took a Piece about the bigness of the Kernel of a Hazle Nut, and seal'd it up in a Glass, I found it would work on the Compas-Needle as well as out of the Glass. Then I broke this Glass, and put the same Piece into a Piece of a Glass Tube; then blew the Glass to inclose the Piece, and left Air enough in the Glass to make it swim, to try if it would turn toward the North.

Fig. 4. *A. B. C. D.* represents the Glass: *E. F.* the Piece of Loadstone. I put this to swim on the Water in an Earthen Dish, and found that it did turn to the North, but the contrary Way: And though I took out the Glass several times, and changed the Position of the

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Loadstone, yet it produced the same Effect. I provided me a small Compass-Needle, and had it toucht by a Compass-Maker, this I inclos'd in a seal'd Glass that it might swim; and I found this would also turn to the North and South: But I found that any little Bubbles on the Water would disturb the Working of the Needle.

Finding the Length and Weight of the Tubes were some impediment to the free Turning, I Broke the Glass shorter, and so blew it.

Fig. 5. *G H I K L M N O.* represent this Glass, and *P.* the Loadstone: I bent the end of the Glass, *L.M.* that thereby the Situation of the Needle might be known in its Turning. I put this into a high Beer Glass of Water, that it might sink to *K.* so soon as the Glass was in the Water, the Part *M.* turned to the North East; and though I turn'd it often, it would return to that Position; and though I placed it in the middle of the Glass, it would in a short time move to one Side or other, and the nearer it approached the faster it went toward the Side, as if there were some Inclination of the Glasses to each other.

I had also several small bits of the said Loadstone, one that was but $\frac{1}{12}$ part of a Pound, and one a little bigger. I took Three of these bits and fitted Glasses to them; such as *Q R S T.* Fig. 6. *V.* representing the bit of Loadstone: That of *Q R.* I only made that it might swim upright without leaning to any Side: Two of these Glasses were so blown, as that only *S T.* rise above the Surface of the Water, and the Third did Flote a little more. One of the Glasses put in the Water drew the end *T.* Westward, and did so as often as I chang'd its Posture, for the part *T.* would turn again and stand Westward. The Second Glass turn'd its end *T.* toward the East, and would turn so again as often as

I chang'd it, at which I wondered how so small a piece of the Loadstone should turn to the North, though it were under the Water. The Third Glass, as Fig. 6. would stand with its part *Z.* sometimes North and sometimes Westward, &c. which made me think that either this little bit wanted its Polarity or that its Axis stood upright, in which cases it would not turn. Then I took the Glass, and several ways endeavoured to change the Posture of the bit of Stone, then trying it, I found it would turn as the other. Then I try'd by putting a Key into the Water pretty near the Glass, to see if it would be moved, but it would not : But taking a long Iron and so using it, it turned a little ; and so did also the Glass, Fig. 4.

These Turnings of the Loadstone were so weak as not to counterpoise the Thousandth Part of a Grain. Farther I have observed, that any fluid Liquor, as Wine, Beer, Water, &c. standing in a Glass, does rise higher against the Sides than in the Middle of the Glass : This I take to be caused by the Pressure of the Air, for the narrower the Glass is, the higher it will stand. And I have found it rise in a small Pipe, Two Inches above the Water without the Pipe : Nay, I have made one Pipe so small, that the Liquor rose above Seven Inches in the Pipe. Now the former Phænomena of the moving of the small Glasses towards the Sides are to be ascribed to the same Cause, that is, to the Pressure of the Air ; which pressed the more against the Middle, the wider the Vessel was that contained the Water, and so made it rise higher by the Sides. For I took a common Beer-Glass, that being set on a Table, the upper Brim of it inclined a little, so that, fill'd with water, it ran over the dipping Side, but was lower than the opposite Brim. In this Glass I put one of my Glasses with a bit of Magnet in it, and put it next the Side that overflowed, it

directed presently towards the North, and it likewise moved towards the opposite Side, where the Water was below the Brim of the Glass, and thus it would do as often as I so placed it. Then I underpropped the Glass to make the Brims stand Horizontal, and filled it with Water to the Top, and then I found that the little Glass I put in, as before, did not move toward any side ; by which I judged that the Surface of the Water was higher than the Brims of the Drinking-Glass, and so the Pressure of the Air was every where equal on the Surface of the Water.

Next I fitted me another small Glass with a small bit of a Magnet in it, as Fig. 7. *A. B. C. D. E. F. G. H. I. K.* in the Cavity of which, as *A. B. C. I. K.* was placed the bit of Magnet *L.* the Neck *C. D.* was near Nine Inches long, and its Cavity about as big as a Horse Hair : this had a Ball blown to make it swim on the Surface of the Water, *D. E. H.* and the upper part of it, *E. F. G.* did rise above the Water. This I did to try if the bit of Magnet would act so far under the Water to turn Northward of it self : and also to try whether the Bit thus far under Water, would dip towards an Iron moved above the Surface of the Water : and I saw, that first it would not rest till it had placed it self North and South, and that the outmost Part, *G.* pointed towards the East. By reason of the Length of this Neck, I had no Glass deep enough for it, and therefore I used a little Box, which I filled Brim full, that the little Glass placed in the Water might not be moved to any Side.

Farther, I fitted another small Glass, whose Stem as *C. D.* Fig. 7. was 13. Inches long, and the bit of Magnet was half as long again as 'twas thick, and I found the position of its Poles by a Compass-Needle, before I included it in the Glass, that it was in the Middle.

Middle of its length, and for that Reason I set it an End in the Glass, and, upon Tryal, I found that the Glass would not cease turning in the Water till the North Side of the Bit pointed North.

Whilst this Glass stood still in the Water, I tryed with an Iron about $1\frac{1}{2}$ Foot long, by holding it above the Surface of the Water, as also on the outside of the little Box, close by its Bottom to see whether it would move the Glass ; but it had no effect to draw it Side-wards : But doing the same to see if it would turn, I found that it did turn to the Iron stronger than to the North, though it hanged Fourteen Inches under the Water. I try'd also by holding the Iron endways to the little Box to see if it would draw the Glass to it, but it did not ; but only the North of the bit of Magnet did change its Position as to the North.

Farther, I placed another little Glass (including a bit of Magnet in it) as Fig. 6. *Q. R. S.* in a beer-Glass, which I had fill'd with Water above its Brims, and when the North of the Bit was settled North, I applyed a round Iron, about an Inch Diameter, as before, close by the Side of the Beer-Glass, and it turned the little Glass from the North as before, but it did not yet make its approach toward the Iron. This Turning of the Glass was in about half a Minutes Time.

Farther I placed the little Glass near the side of the Beer-glass, to see if it would then approach the Iron, but it did not. Then I blew another little Glass, as Fig. 6. inclosing a bit of Magnet of about the weight of an *Aas*, but I found the effect of it much as the former (with the bigger bit of Magnet) only with this difference : That the bigger bits did operate at the greater distance.

These were my Observations about the small bits of the Magnet ; that they had but little extent of their Operation. Concerning which, divers Learn'd Men have try'd and written much ; but whether their tryals were of this nature I know not. I design'd also to try with a Glass as Fig. 7. whose stem was Three Foot long, though by the aforesaid Tryals, I was satisfy'd the effect would have been the same ; for that the out-working of the bit would be the same, and therefore I spar'd the Labour.

I cannot omit mentioning, that for some Months last past, a certain *German* was in the City of *Rotterdam*, indeavour'd to make himself known for his Ability in Curing Sick and Wounded People by his Sympathetick Powder ; which Operations he pretends to perform, at his House, upon the Urine of those Persons which is brought to him.

A certain Person having a grevious pain in his Legg, and having heard of this *German*'s pretending to Cure by his Sympathy Powder. Endeavour'd by a Letter to him to bring him to me, that I might have sight of so wonderful a Cure. This I consented to.

After a full account of the Cure of the said Person was given me in the presence of the said High *German* ; I ask'd, whether they would give me the freedom to speak my thoughts concerning it ? For that I being a *Hollander* was not used to flatter. To this they agreed.

I ask'd the *German*, then among other things, What was become of the *Pus* or Matter of the Sore, that they said was in the Sore Legg, and that some of it was voided during the Operation of the Sympathetick Powder, and yet none remain'd in the Legg ? He Answer'd, *It was carried off by the Urine*. Then I inquir'd

quir'd by what ways it was carried off, for that it seem'd impossible to me to believe such a passage of it ; for that it must pass through such very small Blood Vessels near the Heart ; which, and how it should be that this thick *Pus* or Matter should pass such extreamly small Blood Vessels ? To which I had no other Answer but this. *That there are many things done, of which we can give no reason.*

Hereupon I ask'd him that said he was so wonderfully cured, whether some would not say that his Cure hapned because the Sore was come to its full Maturity, and not by the Sympathetick Powder.

Moreover, the High *German*, shew'd me a Paper of Stones, which he said, he had broken in the Body of a Woman by his Sympathetick Powder.

I again ask'd, If they would not take it amiss if I ask'd some farther Questions. And they granted me freedom.

I said then, that in my Opinion the Stone in the Bladder or Kidneys could not be broken by any Medicine taken inwardly ; and it seem'd to be much more unlikely, that it should be effected by the Operation of the Sympathetick Powder on the Urine of the Patient : And therefore, the vaunting of breaking the Stone in the Bladder or Kidneys, and bringing them away thereby, must be a sham or untruth. Since I had put a Stone of the Kidney a whole Year in strong Wine Vinegar, yet could not dissolve it. Though I know very well, that small Stones and Gravel in the Bladder or Kidneys, may be carryed out by some Medicines taken inwardly.

The same told me, that he had now under Cure, a Woman who had had a great Swelling in her Arm between her Hand and Elbow, and now had a greater above her Elbow between that and her Shoulder, which was black, but

by

by his Sympathetick Powder was brought to a breaking, and it so wrought, that the Corruption of the lower Swelling was carried up, and vented by the opening of the upper. Moreover, that this proceeding farther, the same Woman had a Cancer in her Breast; and that he would by the Operation of his Sympathetick Powder effect it: So that the Corruption of the Cancer should be droven out by this breaking above the Elbow. Hereupon I said, that such Operations seem'd to me impossible; and I desired he would tell me by what way this could be effected. But I had no other Answer, but there were many more things done in Nature than we could give Reasons for. I ask'd also, Whether he did all his Cures by the Sympathy Powder? I had for Answer, that he did perform them also by the Magnet, and by Transpiration. He said farther, that he could also, not only, Cure the *Gout* and *Consumption*, but divers other Diseases also. And that he would by his Sympathetick Powder working on the Urine, perform such effects, that the *Calculos* Matter should work out of the Joynts.

A certain Man and Woman, dwelling in our Town, having *Consumptions*; Upon the great Rumor that was spread of this High *German*, went to *Roterdam*; and he undertook to Cure them in Fourteen days by the Operation of his Sympathetick Powder on their Urine: Though finding themselves, after some Weeks stay there, to grow worse than they were when they first came. They returned home, and shortly after took a long Journey to their Fathers. I have spoken with the Husband of the Woman, and with the Wife of the Man, who told me, that the High *German* had not only promised to Cure them, as they were, but that if they had but anypart of their Body as big as a Finger found, he would recover them.

I was told also, that as he could do good effects by the working of his Sympathetick Powder upon the Urine, so he could also do mischief. Which being so, he may then, if there be any that stands in the way of himself, or any other, send them into another World out of the way. For he can as he affirms, Purge, Vomit and Sweat any Man though some Hours distant from him. What can he not do with Poyfons ? In short all what he has told me concerning his working, and all what other do concerning him, find no belief in me.

His Design is (as People tell me) not to stay long in *Holland*, but to go over into *England*, and we conceive he will there indeavour by his boasting and vaunting to find as easie crediting People as he has at *Roterdam*. I remain, Sirs,

Yours, &c.

Philological Illustrations No. 227

Fig. 1. Horns of a Bear of Scotland.

Fig. 2.

Fig. 3.

Fig. 4.



Fig. 1. The Horns of a Bear of Scotland.

Fig. 2. Horns of Common Bear.

Fig. 3. Horns of Common Bear.

All by Mr. G. Green.

